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Journal of the Society of Arts.

FRIDAY, JUNE 5, 1868.

Announcements by the Council.

ANNUAL CONFERENCE.

The Seventeenth Annual Conference between the Council of the Society and the Representatives of the Institutions in Union and Local Boards will be held on Friday, the 19th June, at Twelve o'clock, noon. WILLIAM HAWES, Esq., F.G.S., Chairman of the Council, will preside.

The Council will lay before the Conference the Secretary's Report of the Proceedings of the Union for the past year, and the results of the Examinations; and the Programme of Examinations for 1869 will also be considered by the Conference.

The following suggestions of subjects for discussion have been received from various quarters, it being understood that in putting them forward the Council express no opinion whatever upon them :—

1. How can the Institutions best aid in the advancement of technical education?
2. Would it be desirable for the Society of Arts to promote the issue of a series of text-books in relation to technical education, especially suitable for working men?
3. How far can the Society and the Institutions co-operate with the Department of Science and Art, in carrying out the objects of Mr. Whitworth's munificent endowment?
4. What further efforts can be made by the Society of Arts to obtain the co-operation of other societies, and of the great public companies, in its educational movement?
5. How far is it possible to unite in one system, or to establish any connexion between the various systems of examination which are now available for the working-classes in different parts of the United Kingdom?
6. How can the Society aid in promoting visits of working men to various foreign centres of industry?
7. How far would it be desirable for working men to take their holidays all at once rather than piecemeal?
8. What arrangements would enable the working-classes to make more extended use of the public museums and galleries which may be available for their instruction and amusement?
9. Under what arrangements could collections of useful and interesting objects of art and nature be sent to country institutions, in circulation from the metropolitan national museums?

Secretaries of Institutions and Local Boards are requested to send, *immediately*, the names of the Representatives appointed to attend the Conference, and early notice should be given of any other subjects which Institutions or Local Boards may desire their Representatives to introduce to the notice of the Conference.

Secretaries of Institutions are requested to forward *at once* by book post, copies of the last Annual Reports of their Institutions.

SUBSCRIPTIONS.

The Lady-day subscriptions are due, and should be forwarded by cheque or Post-office order, crossed "Coutts and Co.," and made payable to Mr. Samuel Thomas Davenport, Financial Officer.

Proceedings of the Society.

CONVERSAZIONE.

A Conversazione took place at the South Kensington Museum, on Wednesday evening, the 3rd instant, when 4,800 Members of the Society and their friends were present. The company was received on entering by Mr. William Hawes, Chairman of the Council, supported by several of the Vice-Presidents and Members of the Council. The bands of the Royal Artillery and of the Grenadier Guards were in attendance, and performed selections of music during the evening. The former was placed in the North Court, and the latter in the open Quadrangle, which was lighted for the oocasion by coloured lamps.

FOOD COMMITTEE.

The Committee met on Wednesday, May 13. Present—B. Shaw, Esq. (in the chair); Mr. Harry Chester, Captain Grant, and Mr. J. Ware.

At the conclusion of Mr. Lloyd's evidence, published in the last *Journal*,

Mr. GEORGE BROOKE attended to give information as to the breeding and feeding of poultry.

Mr. BROOKE—Messrs. Broome and Company are large poultry, butter, meat, and provision salesmen, at Nos. 10 and 11, Newgate-street, Newgate market. I am the manager of the poultry business. I have been all my lifetime in the poultry trade; my father was a dealer in poultry in Norfolk, and I have been a salesman from the age of 18. I have been in Leadenhall market 30 years, and in Newgate market 8 years, and the whole class of trade has come under my notice. I have also given evidence on the game laws in 1846, and have been consulted by the Government in reference to the markets; when I was a member of the Corporation of the City of London, I took a prominent part in the removal of Smithfield to the Metropolitan market, as well as in the establishment of markets for supplying food for the people. I have been particularly anxious in reference to my own trade (that of a poultry salesman), to endeavour to increase the quantity and improve the quality of poultry in the country, and after many years I was sent by Messrs. Broome to France, to examine for myself the markets of Paris, as well as to go through different parts of the country which supplied poultry to the Paris markets, which markets in the country are so well regulated by the local authorities as to be worthy of consideration by those who take an interest in the growth and value of our home-grown farm produce. The time of sale is regulated—tolls are paid—no sales take place outside the markets, and all is order and open trading—besides which all the goods are sold—none are taken home. (The Paris (wholesale) markets cast into the shade any we have in London; the system of order is complete, but the exaction of *octroi* is odious.) This takes place at Houdan, Dreux, La Flêche, Le Mans, Nugent Le Roy,

and a great many other parts, where poultry is fed largely. These markets are held weekly, and very large quantities, to the extent of from 3,000 to 6,000 fowls and turkeys, are brought, besides other articles of farm produce. I was induced, in consequence of seeing this, to try if I could introduce something of this small farmer system into England and Ireland, because I find that in Ireland large quantities of poultry—which I may call the raw material—are produced cheaply, but they do not fetch to the breeders anything at all equal to what they might if properly fattened. In some parts of Ireland the fowls are very inferior, and yet if it were not for the quantity of poultry which comes regularly from Ireland, fowls would be worth in London at present season half a guinea each. I need not say the mode of producing poultry is one well worthy of attention, because we find that fowls weighing 4lbs. might be produced just as easily and as cheaply as fowls weighing only 2lbs. each, if attention were paid to having good breeds, such as the Dorking, Cochin, and the best French breeds, with the Malay, crossed with the Essex or Lincolnshire fowls. I find that the fowls which have been sent into Lincolnshire and Yorkshire, (from whence we get large supplies), have completely changed the breeds—thirty years ago they were quite small, and now they are large and fine. This was all brought about by Mr. Charles Clarke, of Boston, who bought the best stock and gave away the eggs to the farmers and cottagers.

The CHAIRMAN—The size depends upon better breeding and better feeding?

Mr. BROOKE—Exactly. In Essex, likewise, the quantity of poultry is kept up, whilst in Norfolk, some parts of Cambridgeshire, Suffolk, and other counties, poultry had gone completely out of cultivation, in consequence of the absorption of commons and waste lands, as well as that small cottagers are not allowed to produce poultry; while the English farmers' wives and daughters have forgotten the habits of their ancestors, in sad contrast to the French farmers' wives, whose greatest pride is their dairy and their poultry. The suggestion I would make would be simply this—that where there are cottagers and small farmers the gentlemen in the immediate neighbourhood should find a supply of good stock, and then distribute the eggs for breeding purposes, the cost of which could not be more than 5s. or 10s., and by that means the recipients would do as they have done in Sussex, where a very large quantity of chickens are raised all the year round, in the district of Heathfield, in a radius of about 20 miles; during the next three months we shall have sent to London from that part of the country £1,000 worth a week, which will show what can be done by industry and method. The supply for London is of very great importance, because we must not only consider that there are 3,000,000 of people to supply food to here, but we also supply a radius of 50 or 60 miles round London when our supplies are above the demand for home consumption, in consequence of the railways being so accessible. That is not the case in France; the poultry, nearly all, go to Paris, and there is hardly any demand in other towns. In this country the supplies are required constantly. At Brighton, and all round the south coast, especially at Oxford and Cambridge, as well as at other large towns, it is not likely the price will decrease, as a more general use would, I am persuaded, lead to an unlimited consumption. The advantages of increasing the food supplies of a people so numerous as ourselves must be apparent; if it would be considered a boon, that where one blade of grass grew anyone should produce two, how much more so at the present time, when meats of all kinds are found to be deficient in quantity, to enable every one to have a mouthful, that some one should step forward, and by the simple introduction of a cheap process (which is hourly in operation in France) should induce the great landed aristocracy and gentlemen of England and Ireland, as well as the large farmers, to determine that on their own estates a better system of breeding and fattening poultry should commence now. The Emperor of France is, at this time, through the length and breadth of that wonderful country, stimulating, by large rewards, the breeders and feeders of poultry to greater exertions. This ought to be to us a lesson, that unless some general effort is made, poultry as an article of food will disapppear, and, like game, only become a luxury for the very rich. Game is increasing in value yearly. The price of hares last year (wholesale average) was not less than 3s., partridges 1s. 6d., woodcocks 3s., snipes 1s., every pheasant made 3s. 6d.; the price of pheasants is very much affected by the great demand there is in France, where a great many are sold for the plumage; they make the bodies into pies; thus they make more of them than we can. A large number are sent by our firm weekly for this purpose to Paris.

Mr. CHESTER—Could they not make pheasants into pies here, and send the plumage to France?

Mr. BROOKE—I have not heard of its being done. Some feather merchants do buy them, but they do not seem to me to be able to make use of the bodies. In France I do not think they are cooked any other way. With regard to wild ducks, teal, widgeon, plover, ruffs and rees, snipe, and other kinds of wild fowl, there is an increasing demand (and they have almost become extinct in our country), except in severe weather; there is a demand also for their feathers, for ladies' bonnets, and other uses, so that the more birds of this description there are taken away, the more demand there is for poultry. Poultry might be increased rapidly, for surely the quantity can never be too large, there are times now when we find it difficult to supply our customers, and of course, whilst that is the case prices cannot come down. To find out the best means of improving the quality of the supplies, especially from Ireland, was chiefly the object of my visit to France; and I believe that this generous method of making known to the public, more especially to the farmers and the small cotters, as well as to the breeders and feeders of poultry, will influence them gratefully to remember who has been their benefactor; and that the public will not allow us, as men of business, to be overlooked. At the first glance Messrs. Broome thought it prudent to conceal this new system from the public, and take advantage of it for themselves; but, remembering that they were, and had ever been, purely commission salesmen only, and that they daily received very large consignments of meat, poultry, game, butter, and other kinds of provisions, they resolved to throw broadcast upon the waters the entire knowledge of the system, and they are resolved that I, as their manager, should visit the markets, and explain practically what, they make no doubt, will prove the era of a new system, which is making such rapid strides in France, and which, they believe, will equally benefit their own country, especially the poor cottagers and peasant farmers of England and Ireland. I have recently paid a visit to South Wales, and I find that in some parts the cottagers and small farmers are increasingly producing poultry, and this ought to be extended through the length and breadth of Ireland. I have suggested to Messrs. Broome that I should go to the different markets of England and Ireland, and call together the farmers' wives and cottagers, and market people, on market days, and tell them exactly what they might do, and show them how to do it.

The CHAIRMAN—Do you happen to know the French mode of feeding? I think that is very important.

Mr. BROOKE—Yes; I have written that down, in order to make it thoroughly known. By the plan I propose I think we could introduce a new mode of breeding and feeding poultry. Thus, chickens two or three months old will fatten in seven, fourteen, or twenty-one days, at a cost of fourpence or sixpence per week. I do not think there is a possibility of raising any kind of vegetable so quickly as that, so as to produce a fat article out of a lean one in about seven or fourteen days.

The French seem to me to have acted very wisely in one respect—they never, as a rule, send a very small, young, or lean article to market. Now, in our markets, we have large quantities of lean goods, not only poultry but meat, which I consider to be criminal to the community at large. The French actually fat the old hens as well as old Turkeys; they are sold in France for the purpose of being made into soup, *bouilli*, and other kinds of food, which, according to the French system of cooking, are very nice. Generally farmers, directly they have done with an old hen, sell her for a trifle. The Essex people are wiser; they have managed in the same way as the French; they get the eggs out of the fowl and then they fatten them, and sell them for 2s. 6d. or 3s. each. They shut them up and feed them twelve or fourteen days. The way in which the people round about Heathfield, Cuckfield, Uckfield, and other parts of Sussex have improved within the last ten years, is marvellous; and they now make from 3s. 6d. to 5s. 6d. for chickens not more than three months old. The chief point is the labour; the only expense there can be is rearing, until they get about two months old, which should be by the side of a hedge, or where there is grass, which cannot cost more than 1s. to 1s. 6d.; strong, healthy, well-fed chickens are very soon fattened. I think that is a power of manufacture which is worthy the consideration of the country, as the profit must be at least from fifty to seventy-five per cent. The means of feeding are simply these:—Barley or oatmeal, ground fine, grease, fat, or suet mixed with it; new milk, or, if not procurable, meat broth, mixed with it to the consistency of thick soup, and administered twice or thrice daily for seven, fourteen, or twenty-one days. Fowls from four to six and nine months old should be fed on this food with the funnel, and kept in the dark on clean straw. All kinds of animals kept in the dark, and quiet, always fatten quicker than when they have too much room or light; that is a very important part of the French system, to keep them in the dark. But what I would wish to point out is this—the French fowls which are fed with a funnel are a particular breed—the Crevassieur, La Flèche, Le Mans, and Houdan; a small chicken would not bear the funnel to go down its throat. This class of fowl are now selling wholesale, in Paris, at from 6s. 6d. to 15s. each.

The CHAIRMAN—I have been much struck with seeing the plan of cramming geese at Strasbourg; the geese seem to like the first few mouthfuls very much, but they afterwards get much disgusted. It was a most extraordinary sight.

Mr. BROOKE—The French fowls seem to get quite fond of it, and are quiet; they struggle very much at first, but they soon get used to it. I think it would be rather difficult to introduce this system of feeding by funnel at first amongst the farmers, as it is a process which requires some dexterity and patience; but it is very simple. To make a coop for 24 fowls, with a small trough, to be kept clean, to peck the chickens (as they do in Sussex) for 7 or 14 days, is what any one could undertake. The chickens must only have food enough to fill themselves full; then they must be kept in the dark, and quiet. The food must be made into a consistency similar to soup; boiled eggs are sometimes given to them during the last two or three days; and as fowls well fatted fetch such a price, it is worth while to bring them to the highest perfection. I have never seen such fowls in England as I saw in the Paris market and the Palais Royal, each weighing 10 or 14 lbs., which fowls were eight and ten months old. They must be large to be fed with the funnel; while chickens from ten weeks to four months old must have this special food in coops (holding 12 or 24 each), provided with troughs, which must be daily cleared. There is a difference, of course, between a chicken fattened in this way and fowls fattened for an especial purpose, as is done with a funnel. I would make one remark here with reference to hatching by steam. We repudiate it altogether. I know there is not anything of the kind of any value to anybody. I never saw a single fowl which was ever produced by steam hatching which could be fattened. It is a positive impossibility, and those who advocate it are quite in error; to contravene nature is beyond the power of man.

The CHAIRMAN—You may hatch them, but you cannot rear them?

Mr. BROOKE—That is just it. You may get them a good size, but in some the legs would be about six inches long, and they would be very thin bodies; some with one eye, and some with crooked backs. There would always be an imperfection in some way with regard to them; neither can they breed. Thirty years ago, when Mr. Cottle was trying this, I told him I would give him one guinea each for every fatted fowl he could produce by steam. Fowls require to be very healthy before you can fatten them at all, and for that reason I think none of these poultry companies will ever be successful, because the fowls do not do well huddled together. Our own supply of poultry can be only increased by giving plots of land to farm labourers, stimulating the cottagers and small farmers to breed and fatten poultry, for, wherever it is mixed and crowded together, disease is sure to follow, and it is impossible to produce them to advantage. We did think at one time it would be well to have a depôt at Holyhead or Milford Haven, where the poultry might be brought over from Ireland and fattened; but even with that short passage of 10 or 12 hours there is a danger of the poultry getting into a kind of fever, which would prevent them fattening properly. We therefore consider it is much better to import the poultry dead than alive. If we could only get the gentry in Ireland to adopt the simple plan of getting a stock of the very best poultry, and giving away a clutch or two of eggs to the small cottagers around them, and taking care to remove all inferior breeds (and this could be done at a very small expense), in twelve months the whole country might be covered with a fine breed of poultry, to the advantage of all concerned.

The CHAIRMAN—Can you suggest any mode by which these country gentlemen can be stimulated to assist the farmers and cottagers in this way, and to insure to the producers a good market for the poultry when they are reared? I understand that in Wales poultry do not fetch more than 3s. a couple, whilst here I give about 7s. and 8s. a piece for fine fowls.

Mr. JENKINS—The price has been very much raised of late in South Wales.

Mr. BROOKE—I may say that I have just returned from South Wales, where I have established this system. We have one man there who is carrying it out to some extent, and his poultry costs 2s. and 2s. 6d. each. Then at Llandilo there is a man to whom I have introduced this system, and he is carrying it out to a certain extent; but the people are so stubborn you cannot get them to have faith in trying a new system. I have no hesitation in saying that it is quite possible for me to go down to any part of England, and show the system myself, as I did in Wales, and make such an impression as will induce people to try it; but, if you introduce it to one or two, they always want to keep it to themselves. We rather believe, however, that we should be invited down; if we are willing to do people a service, the least thing they can do is to pay travelling expenses, and if that were done I should be very glad to spread this knowledge as widely as possible.

The CHAIRMAN—Can you suggest nothing to the Royal Agricultural Society, in order to spread this knowledge which you have acquired?

Mr. BROOKE—The only way in which it could be done would be by giving me an opportunity of speaking, or giving a kind of lecture, and then let them put questions, and then let it be printed and made public by the press throughout the country. I should have very great pleasure in doing it, because then it would be published in an authorised manner. For instance, I think

of going down to Boston in Lincolnshire, but unless something of this sort is done, one has to introduce oneself, which is not the most pleasant thing in the world. If something were done beforehand it would attract public attention, and show them exactly what to do.

The CHAIRMAN—I understand, from what you say, that notwithstanding the climate and soil of England, you are of the opinion that the production of poultry might be very much increased under better management.

Mr. BROOKE—Certainly: I am quite certain that the supply of poultry might be increased at least ten, and eggs fifty fold, and when you seriously consider the matter you will see how important this is. I do not know how many cattle there are in this country; but when you come to fowls, you can count them by millions, and then if you increase the weight of each fowl which is eaten by only half a-pound, you will see what an important effect you produce. But that is putting it at the very lowest point; by properly breeding and feeding fowls, the weight may be increased, not half-a-pound, but from 1 to 2 lbs., according to the breed and the system adopted.

The CHAIRMAN—Do you see any objection to poultry being sold by weight?

Mr. BROOKE — None at all, especially geese and turkeys. About four years ago there was a great glut of poultry at Christmas time, in consequence of large quantities being sent to London. All the dealers were supplied, but on about the 26th or 27th of December, I think it was, not only our shops, but the cellars and warehouses were crammed full, most of which was sold by weight and by auction.

The CHAIRMAN—Is there much difference between the price of poultry of the same quality in different parts of London—in the West-end and City, for instance?

Mr. BROOKE—Very little, if any. It may be slightly cheaper in the City, because the men are a little closer to the markets. But I do not think there is much difference for the same quality. Sometimes you cannot get good poultry in the neighbourhood of the market. The best West-end tradesmen will take off a large supply early in the morning, because they must keep a stock; whereas, if there is any unusual demand, it is all absorbed in the City.

The CHAIRMAN—Does the importation of wild fowl from Canada, the United States, and Norway and Sweden extend?

Mr. BROOKE—No; we do not have any. The only peculiar kind of game we have is the prairie bird, from America, and they are very few, and the ptarmigan, from Norway. The brent-goose we hardly ever see now in the market. I may mention that about thirty years ago waggon-loads used to come from the Essex coast. Many of the birds, which were formerly very plentiful indeed on our coast, have disappeared, and come now entirely from Holland. That arises from cultivation and drainage; and I understand now that they are even disappearing from the internal part of Holland; and they have to go almost to the confines of Germany. All this will show what a great field there is in this country for poultry. Pigeons, too, have nearly all disappeared from this country in consequence of the improved state of cultivation. They now come over from France; they are brought over here, and fattened by men in different parts of London. We have just sent an order over to Amiens for a large quantity for the races; there will be 50,000 next week from France for our two markets. The men feed them with their mouths, and will feed 1,000 an hour. With regard to geese, the goose has disappeared entirely from this country. They used to feed on the commons. It has been said, "What shall be done unto the man who from a goose steals a common?—Nothing. But what shall be done to him who from a common steals a goose?—Why to prison with him, to be sure." Now there are no commons nor geese.

The CHAIRMAN—Where do we get the geese from?

Mr. BROOKE.—In winter time we have live geese coming in thousands to this country from Ireland, Holland, and Germany. They go down to Norwich and other places in the neighbourhood, where they are fattened. Mr. Bagshaw, at Norwich, fats 12,000 or 15,000, and after they are fat they come back to London again. We formerly got them from Norfolk, Suffolk, Cambridgeshire, Lincolnshire, Yorkshire, and Essex.

The CHAIRMAN—A gentleman who spent the winter at Pau, informed me he had seen there very large geese indeed; but that they boiled them down for their fat, and did not eat them.

Mr. BROOKE—Formerly we never got geese from Normandy, now we have them by thousands. They come in boxes regularly; Messrs. Foucard, Mabire, and others supply these geese. We cannot expect an increased quantity of geese in this country, for where a goose goes it is impossible to get animals to feed; but with respect to poultry there is neither nuisance nor injury. With respect to poultry, therefore, I earnestly contend it is the duty of the people of this country, who have at heart the true interests of the industrial and working classes, not only to give them a good cottage to live in, and a small piece of ground to cultivate, but also to give them a brood or two of good fowls, which would answer the purpose of a bank. This would be a bank of the best kind, because the children can so much improve it. It is watchful labour which is particularly required to produce poultry, and we should then find, as is found on the Continent, that where people have this opportunity of employing their time, and their children, it makes them careful and saving. But it is of the utmost importance to have a good breed. I take this matter up, not only as a matter of business, but from benevolent motives. I am engaged now as a guardian of the poor, and I have been always connected with associations for the practical benefit of industrial populations, especially the agricultural labourer; and I have been much interested in Canon Girdlestone's project for improving the condition of the agricultural labourer, especially as I come from Norfolk myself. I feel that if the method of improving the breed of poultry were put before the people, it would enable them to help themselves; and that is really the most satisfactory way of helping them. I have been informed, in one district where the breeding of poultry has been much increased, the poor rates have sensibly diminished.

The CHAIRMAN—I think it is a matter of the greatest importance.

Mr. BROOKE—I should not be afraid to go before any body of men and convince them that here is a kind of El Dorado, and I should be very happy to show them how to work it out practically. In conclusion I would say that if what I have stated could be printed and put before the public, it would be of the greatest possible advantage, as it is found to be in many parts of our own country, in Belgium, Holland, Normandy, and many other parts of France, and wherever there is conceded to the industrial agricultural poor some advantage, such as the keeping of poultry would be considered, these habits of economy and thought would ensure the surest pledge of order and virtue among any people.

1st at 6 a.m.; 2nd at 12 noon; 3rd at 6 p.m.

1. Barley or oatmeal ground fine.
2. New milk if obtainable. Skim do. (boiled) with some sugar.
3. Meat Broths—if milk is not procurable.
4. Pork lard, suet, or grease.
5. Boiled eggs for high feeding during the last 3 days.

Time of feeding in coops for chickens 7 or 14 days; time of feeding by funnel large fowls or turkeys 21 days: 3 times daily.

OPENING OF THE HAVRE EXHIBITION.

The inauguration of the International Maritime Exhibition took place on the 1st inst. with great *éclat*. Besides the representatives of the Imperial Government,

the authorities of the department and of the city of Havre, and the Commissioners of the exhibition, there was an immense attendance of visitors and exhibitors, and a large number of representatives of the French and English press. The company assembled in the great room of the club-house erected in the grounds of the exhibition, a building admirably adapted for its purpose, and thence proceeded in a body to the entrepôt, where a very large building was fitted with a great platform and orchestra, and gaily decorated for the occasion. The number of persons present was very large, probably six thousand or more, and on the platform was a brilliant show of uniforms and decorations. The proceedings were opened by M. Ozenne, director of the Department of Commerce, and delegated by the Minister of Agriculture and Commerce, who pronounced a glowing eulogium on the exertions and success achieved by M. Nicole, the promoter and director of this bold undertaking; the enthusiastic reception which M. Nicole received when he addressed the assembly, must have been a most gratifying popular acknowledgment of M. Ozenne's eulogium. The sous-prefect and the maire of Havre also addressed the meeting. Before and after the speeches, some excellent music was performed by a powerful and well-conducted band, a lady and two gentlemen vocalists, and an efficient orpheonic chorus. The great feature of the entertainment, however, was the recital of an ode, entitled "Discovery," to which a prize of 500 francs had been awarded to its author, M. Paul Delair, whose verses had been selected from among sixty fine poems sent in. The composition is a very remarkable one, but its value was greatly enhanced by the fact that it was recited with great taste and effect by an accomplished actor, M. Taillade, who is best known for the success which he lately achieved at the Odeon, in Paris, by his performances of *Macbeth* and *Edgar* in "King Lear." M. Taillade certainly achieved an immense success in the powerful recitation.

In the evening there was a dinner given in the great room of the club-house, already mentioned, the Prefect of the Department presiding. There were at least two hundred persons present at the dinner, which was served in a manner that spoke volumes for the management of the Havre authorities.

The exhibition itself occupies a large quadrangular piece of ground, the galleries forming the sides, and the garden occupying the centre; an arrangement that deserves well to be studied for future occasions; it certainly presents great advantages. In the garden, besides the club-house, there is a magnificent aquarium, by far the largest yet formed; it represents Fingal's Cave, and the tanks are large, admirably arranged, and well lighted; the number of specimens of the finny tribe is large, the flat fish and whiting being specially remarkable. The other portions of the exhibition are not yet completely arranged, but all may be finished in a few days. Connected with the maritime exhibition, is an exhibition of fine arts, but the unexpected extension of the programme has made it necessary to build an additional gallery for the modern pictures, which is not yet ready.

The general impression of the visitors seemed to be that the exhibition promised to surpass the expectations formed of it, especially in the practical sections; and the simplicity of the arrangement of the parts is a great advantage. The four faces of the building towards the garden are furnished with verandahs, beneath which are cafés and shops of various kinds, as at the Paris exhibition. Nothing could exceed the courtesy displayed by the Chief Commission and all the authorities towards their visitors.

AERONAUTICAL SOCIETY'S EXHIBITION.

The proposition to hold an exhibition in London, of objects of an aëronautical character, having met with encouragement, the Council of the Aëronautical Society have determined to act upon the proposition, with the hope that the guarantee and prize fund will be materially increased.

The objects hitherto announced by members for exhibition promise interesting features for the engineer and mechanic, and there will not be wanting experiments of a practical character, which can scarcely fail to interest the general public. The objects are classified as:—

1. Light engines and machinery.
2. Complete working aërial apparatus.
3. Models.
4. Ditto—working.
5. Plans and illustrative drawings.
6. Separate articles connected with aëronautics, including objects of interest illustrative and commemorative of previous experiments.
7. Kites and other similar apparatus proposed to be used in cases of shipwreck, traction, or in the attainment of other useful ends.
8. Painting and drawing of cloud scenery and landscape as seen from a baloon.

The exhibition will be opened on Thursday, the 25th of June, at the Crystal Palace. There will be no charge for space. Each exhibited article must be accompanied by a large card or placard in duplicate, having conspicuously printed its name and object.

Arrangements have been made, by order of the Treasury, for facilitating the passing of goods intended for the aëronautical exhibition, through the Custom-house, upon the production of a document specifying the mark, number, and contents of each package. It would be advisable that all packages should be shipped direct to London, where practicable. Goods will be received at the Crystal Palace until the 20th of June, unless the term be prolonged by special arrangement. It may be observed that there is no duty upon philosophical instruments or machinery of any kind.

The fund out of which Prizes will be apportioned has not attained that amount which will allow of complete specification; but the Council are gratified in being able to state that the Shipwrecked Mariners' Society have devoted £50 as a prize for "The best form of kite or other aërial arrangement, or modification thereof, for establishing a communication from a wreck on shore, or between two vessels at sea."

The Crystal Palace Company have also declared their intention of giving a prize of £50 to the exhibitor of a machine to carry and be worked by a steam engine or other motive power, which shall sustain and move itself in the air, at a height of not less than ten feet from the ground, for a period of not less than twenty minutes.

The Duke of Sutherland offers a prize of £100 to the inventor of a machine which, not being of the nature of a kite or balloon, shall ascend with a man to the height of 120 feet.

The Aëronautical Society offers a prize of £55, aided by the contributions of several members, to the exhibitor of the lightest engine in proportion to its power, from whatever source the power may be derived.

Smaller prizes, as far as the guarantee fund will allow, will be given to exhibitors of other machines, according to merit.

During the exhibition, daily experiments and partial ascents will be made in a captive balloon, upon the plan lately pursued in Paris by Mons. Giffard. This gentleman's experiments, confined to an altitude of 1,000 feet, were greatly appreciated by the higher classes, who crowded to take the opportunity to ascend to that height. Messrs. Domango and Delamarne's "Ballon Captif" has been engaged for this purpose, under the management of Mons. Delamarne, who will inflate it with gas especially manufactured under his superintendence; and it is proposed to make successive ascents to at least 1,000 feet. The car of this aërostat is three yards square, and will accommodate fourteen persons. Mr. Glaisher will largely avail himself of the opportunity here afforded

for meteorological experiments during the captive ascents both by day and night. During the latter, the power of the magnesium lamp will be tested, both as to the distance from which it can be seen at different elevations, and its own powers of illumination. Similar experiments, not confined to the magnesium light, will be conducted.

Balloons for free ascents it is hoped will also be held in readiness, under the guidance of experienced aëronauts, for the accommodation of visitors, who may engage to make an aërial excursion.

During the nine days that the exhibition remains open under the auspices of the Society, arrangements will be made for evening meetings of members and their friends, for explanation and discussion relative to the merits of the various objects exhibited. It is believed that those gentlemen who are to be appointed as adjudicators of the prizes will receive much assistance from these discussions. Throughout this period members of the Society will be admitted to the exhibition without payment. For further particulars application should be made to the Hon. Sec., Mr. FRED. W. BREAREY, Maidenstone-hill, Blackheath.

ANNUAL BUDGET OF THE CITY OF PARIS.

The administration of a city containing, with its environs, nearly two millions of human beings, must always be a subject of great interest, and in the case of Paris, which may almost be said to be in the course of reconstruction, the interest is of an unusual character.

The ordinary expenses for the present year are set down as follows:—

Interest and charges of debt,	21,044,364	francs.
Administration of the Prefecture of the Seine	65,662,259	,,
Prefecture of Police	15,965,072	,,
Total (£4,106,868) ..	102,671,695	,,

This total is £253,840 in excess of that of the year 1867.

Amongst the memoranda relative to the ordinary expenditure we find the following:—The clearing the streets and roads of mud and rubbish, which created great difficulties last year, can only be effected now by a relatively large expenditure. The farmers who formerly undertook this work, often with profit to the municipality, have mostly thrown up their engagements, while those who are willing to renew demand increased remuneration. On the other hand, the general adoption of the system of watering the roads by means of jointed hose and fixed hydrants has diminished the cost of that important service. The extension of public squares or gardens, of the plantations of boulevards, and the consequent necessity of an increase in the nursery grounds and hothouses of the city, necessitates an increase of more than four thousand pounds under the head of "Promenades and Plantations." The extension of the sewers and water-service gives rise to an augmentation equal to nine thousand pounds. The pipes and conduits for water, laid down during the past year, amounted to nearly eighty miles in length, and the new sewers to little less than half that quantity.

The gross total of the Budget of extraordinary expenses is 61,412,623 francs, or £2,456,505; of this sum nearly £360,000 is required for paying off portions of the loans, commencing with that of 1852; and £92,012 to pay for the purchase of certain toll-bridges; of the rights and privileges of the General Water Company, of the Canal St. Martin, of the old abattoir of Batignolles, of the waterworks of St. Maur, and of the Cab Company.

After deducting these sums from the total resources in hand, there remains a sum equivalent to very nearly two millions sterling, which is proposed to be applied in the following manner:—

Extraordinary allowance to the board of public charity, for building purposes	£40,600
Architecture and works of fine art..	45,142
Roads and bridges	199,400
Completion of demolitions, reconstructions, and other great works in hand	1,000,000
Improvements in the public ways..	600,000
Balance for sundry expenses	103,866

The charity board receives also another million of francs from a new loan, in order to erect or complete the following, amongst other works, viz., a hospital for incurables at Ivry; a new hospital in the arrondissement of Menilmontant, in the outskirts of Paris. The rebuilding of the Hôtel Dieu is not included in this estimate, but is provided for by a special fund. It is expected that all the buildings will be covered in during the current year, and that the following year will see the new hospital completed.

It must be mentioned that the above does not represent the whole of the expenditure, but only that of the municipality; the state also contributes a considerable amount not included in the city budget.

The budget is completed by a third and fourth division, those of supplementary and special receipts and expenses, amounting to £3,445,110, but of which the particulars are not given. Thus we arrive at the following *resumé* of the city expenditure for the year:—

	Francs.
Ordinary expenditure	102,671,696
Extraordinary ,, ...	61,412,623
Supplementary ,, ...	20,000,000
Special ,, ...	61,127,740
Total.....	245,212,059

or £9,808,482.

The special public works include several new churches and the repair of many others; the erection of two synagogues; of two colleges, and many educational and other municipal buildings; one theatre; two barracks, and two other military buildings; forty barracks around Paris for the employés of the octroi; the completion of the new general abattoirs in connection with the great cattle market at Villette; the concluding portions of the great general market of Paris, and eight new local market places.

The new roads and streets opened during the past year in old Paris amount to about five miles in length; and in the recently-annexed portions of the city 5,884 mètres of new and 30,857 mètres of old roads, making a total of more than twenty-three miles, have been levelled, macadamized, and paved. The total length of roads dealt with in the new zone of the city to the present time is stated as equal to nearly sixty miles, of which one-third have been newly created. There remain at the present time nearly thirty miles of road either unmade or in a very unsatisfactory condition, depending on the completion of the levels of main lines or other circumstances.

As regards public gardens and promenades. One very handsome new park was lately opened on the Buttes Chaumont, as well as two large squares planted; and another large park is commenced at Montsouris.

The works executed in connection with the supply of water to Paris have been very important, but most of these, including the great reservoir of Menilmontant, have already been described in the *Journal*.

The total cost of the whole system of new boulevards and streets, made and to be made, is stated at more than thirty-nine millions sterling, and the work is expected to be completed in the commencement of 1869. The cost of the public buildings, promenades, squares, sewers, &c., has been defrayed, with the exception of two millions sterling, out of the ordinary revenues of the city. The extraordinary expenses consequent on the extension of the limits of Paris amounted to nearly twelve and a-

half millions sterling, of which more than one-third was taken from the ordinary receipts of the municipality. "These works," says the report, "have not cost the population of Paris any increase in taxes, and yet not more than half the enormous amount expended on them is left to the future to pay, because they have increased the value of the property of the city to more than twice the extent of the capital employed."

The remainder of the long document in question is occupied with the statement of a subject which has created considerable difficulty and excitement in Paris, and which, moreover, has a general interest as a matter of political economy. The zone which was taken within the limits of the city of Paris in June, 1859, contained a large number of factories of various kinds, the proprietors thus enjoying the combined benefits of proximity to the capital and immunity from octroi duties. The Act which made this zone a portion of the capital provides that no octroi dues shall be levied on the then existing factories until the following year, 1860, and that for seven years they should not be charged any higher duties than they paid before the annexation, either on raw materials or fuel. The period to which this latter saving clause applied elapsed with the year 1866, and during last year the octroi duties were charged in their case as in others, with this exception, that the materials and fuel were allowed to be laid in in bond, the duties only being charged on consumption.

The manufacturers complained loudly of the burden which thus fell upon their shoulders; many factories were closed, and the workmen discharged, and the subject created great excitement. The question was a serious one for the manufactories, but the municipal authorities enforced the duties, and the document under hand gives the reasons which prevailed with them, with the statistics of the case.

It appears that factories availed themselves of the right of admission of materials and fuel in bond in 1860, but that in January 1867 only 200 retained it; some of the remainder had been removed beyond the limits of the city. In December last only 144 factories who kept the right of entrepôt, or, excluding gas works, which are on a special footing, 135; of these 11 only receive raw materials, 47 both materials and fuel, and 77 fuel alone.

It does not appear that the question of the octroi duties on the raw materials employed in these factories presents much difficulty; the grand question in dispute is the taxation of fuel.

The octroi duties are from 18d. to 2s., the stere on wood; 5d. per hectolitre (22½ galls.) on charcoal; and 3d. per cwt. on coal, coke, and peat.

A committee, to which the subject was entrusted in 1864, recommended that small coal, to be used in factories, should be admitted into the city at half the existing rates of duty, and that the loss should be made up by a small increase on large, or domestic coal; but the prefect, in his report, repudiates this recommendation, and argues that any such arrangement would be unfair to the population at large, and that it is just as illogical to exonerate fuel used in manufactories from duty as to apply the same rule to the food of the workman. It is therefore on principle and not on fiscal grounds, for the amount in question is less than £40,000 per annum, that the prefect rejects the claims set up by the manufacturers. Another objection put forward is, that if any such exoneration from duty were carried out, manufacturers would flock to Paris from all parts of France, in order to enjoy the advantages which a capital affords. The extent of the question, from the manufacturers' point of view, may be judged of by the following figures given in the report:—Of the 124 factories which received fuel in entrépôt in the year 1866, ten paid upwards of £800 a year octroi duty on their combustibles; one sugar refinery, £4,080, another £3,600, and a third £2,440; one ironworks, £2,160; a sugar, an iron, and a chemical factory, each, £2,080; another refinery, £1,640; a copper foundry, £1,200; and a third ironworks, £920; ten others paid between £400 and £800; fourteen between £200 and £400, and so on down to thirty-four, which paid less than £40 a year each.

The final settlement of the question is not yet attained, but the conclusion of the prefect is, that that no general measure can meet the case in a satisfactory manner, but that each claim for diminution of amount must be argued on its own special merits.

Fine Arts.

PARIS EXHIBITION OF WORKS OF ART.—The Paris *salon* has been closed, according to custom, for a few days, to enable the jury to settle the awards, and to make some few changes in the places of certain pictures, and was opened again on the 30th of May. The Grand Prix d'Honneur in Painting has been awarded to M. Gustave Brion, who took a second-class medal in 1853, a first-class medal with the Cross of the Legion of Honour in 1863, and a second-class medal at the Universal Exhibition last year. The work which has obtained for this artist the blue ribbon this year is a painting of very sterling serious character, the subject—the Reading of the Bible in a Protestant Household in Alsace. A grave old man, of the peasant class, sits beside an immense stove of white earthenware, and reads from the holy volume; opposite to him is a group of a dozen persons, principally women, who listen attentively to the words he utters; the faces of the women especially are exquisitely natural and charmingly contrasted, while those of two or three stalwart peasants and a little boy give additional variety to the scene. There are literally no accessories, the dresses are sober in the extreme, and the whole force of the artist's talent has been concentrated upon the faces, which, though not refined, are intellectual and full of vigour. The painting is remarkably solid and honest, and presents an admirable example of the French school, while the sentiment and composition seem to belong to a more thoughtful school. It is a mark of progress, perhaps, in taste, that the highest reward has been given to a work so serious in character, possessing so few intrinsic claims, and making not the slightest appeal to patriotic or popular feeling. The award will probably be much questioned, and the popularly-elected jury will perhaps be considered somewhat puritanic in its decision. Of the forty ordinary medals there is now no distinction of classes; two are awarded to female artists, one to Madame Eléonore Escallier, who exhibits two admirable specimens of flowers and birds, painted on *faïence;* the plaques are circular, and of large diameter, nearly two feet, thus presenting great difficulties in execution; some large reddish-brown leaves and crysanthemum flowers are admirably rendered, and a bird of brilliant plumage in each case makes up a beautiful harmony of colour; the blue has run a little in one place, but, with this exception, Madame Escallier's work is nearly perfect; the other lady to whom a medal has been awarded is Mademoiselle Nélie Jacquemart, who sends two capital portraits, one of a lady, the other of M. Benoît Champy, President of the Civil Tribunal of the Seine. The gentlemen to whom medals have been awarded are:—M. Appian, for two landscapes; M. Beaulieu, a pupil of E. Delacroix, for a curious composition, a Pierrot cooking, or making what is called œuf d'Autriche; M. E. Breton, a landscape and a snow-scene; M. Brun, a beggar woman; M. Paul Cellier, for an admirable portrait and small genre picture; M. Cermak, a native of Bohemia, an excellent composition, representing a number of Christian girls being carried off by Bashi-Bazooks to be sold at Adrianople; M. Chenu, a view of a public promenade by the side of a river, evening; M. De Connick, a Gallic mother proving her constancy by launching her new-born infant on her husband's shield on the waters of the Rhine; M. Daubigny, fils, a land-

scape and girls winnowing corn; M. Delierre, dead game; M. H. Dubois, Erigone attracted by Bacchus in the form of a bunch of grapes; M. Erhmann, a large and decorative panel of a pretty little figure called the morning star; Victor Giraud, the return of the husband, one of the most remarkable works in the exhibition; the husband supports his fainting wife, while the lover lies wounded at the foot of the stairs upon which the former stands; the position is one of the most difficult that could have been selected, the wounded man having fallen on his back with his head in the foreground of the picture and his feet on the stairs; the same artist exhibited last year an admirable work, the slave market, of quite another character, which was purchased for the Luxembourg gallery; M. Glaize, jun., two portraits; M. Hanoteau, a noble woodland scene, noticed in a former article; M. Harpigniés, two landscapes; M. Héreau, women collecting seaweed in Brittany, a charming composition; M. Hugrel, nymph and cupid; M. Jundt, a pretty rural scene, a girl arranging her hair by the water; M. G. Jacquet, army of German mercenaries of the 16th century; M. Klagmann, Medea; M. L. A. Leloir, baptism of natives of the Canary Islands in the year 1404, a vigorous work; M. Jules Joseph Lefebvre, a remarkably powerful but not graceful study from the nude, and an admirable portrait; M. Legros, whose pictures we have not seen; M. Lobrichon, portraits; M. Alphonse Muraton, two hermits, and a monk at prayer, a fine head; M. Emile Michel, hunting and snow-scene; M. Méry, two curious compositions of birds and wasps; this artist paints insects with remarkable effect; M. Mouchot, Egyptians with monkeys and fellah women; M. Parrot, a charming nude figure, seated by the sea, and entitled, Elegy; M. Regamey, military piece; M. R. Thirion, death of St. Paul; M. Tourny, a portrait; M. Vibert, a curious work, the monks of a Spanish convent being drilled by an officer, in 1811; M. Vollen, collections of arms and armour; M. Worms, the romance à la mode and la ronda, which we have not seen; and M. Zo, a very pleasing picture, full of sunshine, the tribunal of the Moorish kings in the Alhambra. The large proportion of landscapes and portraits in this list is remarkable; it includes no great historical and very few imaginative works; on the other hand, it must be noted that all the medallists but one are natives of France, and that one is the pupil of a French artist. It must be remembered also, that many of the artists exhibiting are *hors concours*, having before received three medals, or the cross of the Legion of Honour. The prizes in the other classes are not yet published.

Manufactures.

SILKWORM DISEASE.—The terrible suffering that has been caused in the South of France, by the disease which has attacked the silkworms for the last twenty years,—it made its appearance in 1848—has drawn the attention of scientific men to the subject, and M. Pasteur, the great authority on ferments, has taken up the subject. He is of opinion that the value of the eggs, or seeds, graines, as the silkworm's eggs are called in France, may be tested by means of the microscope, and he has published a clear account of the appearance presented by the sound and diseased eggs. Several proprietors and others have tried experiments with eggs thus selected with marked success. Amongst others, M. Henri Marès, of Montpelier, who has an immense breadth of land under vines in the plain of Launac, near Frontignan, and to whom France is indebted for the application of sulphur as a preventative of the *oidium* or vine disease, has tested M. Pasteur's plan on a considerable scale. Before the middle of May, many of the worms had undergone all their transformations, and some few were busy spinning their cocoons; they looked perfectly healthy and were of great size, and everything promised well for the experiment. The fact must not, however, be overlooked, that the fine appearance of the worms cannot be attributed to the selection of the eggs alone; M. Marès' lofts are well supplied with mulberry leaves, and kept carefully clean the experiment is, in short, carried on by a man of high education, scientific attainments, and active habits, and thus the causes of success are double microscopic selection of eggs and sanitary arrangement. The poor silkworm breeders generally present a very different spectacle; their chambers are kept at a great heat, without any careful arrangement against draughts, while the supply of food and the cleansing often suffer from want of sufficient hands to carry the operations out properly. M. Marès is not of opinion that the stripping of the mulberry trees causes the leaves to lose their value as food for the worms; his trees are reduced to bare poles during the season, and yet they present a most vigorous appearance. It is to be hoped that the efforts of the government, aided by men like M. Pasteur, M. Guérin Méneville, and M. Marès, will soon eradicate the silkworm disease, which has cost France and other countries so many millions.

FURNITURE AND CABINET-MAKING IN ITALY.—The manufacture of furniture is one of those industries which have been carried on in Italy successfully from an early period up to the present time, without having fallen off in importance or declined in any way. During the middle ages, and especially at the Renaissance, the national as well as foreign palaces, royal dwellings, and museums, were filled with *chefs-d'œuvres* due to the skill and taste of Italian artisans who were worthy of the name of artists. Although wood-carving in Italy does not seem to have aspired, as in northern countries, to infinite richness—and perhaps heaviness—of the ornaments, and to crowded minuteness of detail, it has always preserved that good taste in design, purity in outline, and good proportion, which it has inherited from antiquity. Sienna may be considered as the first cradle of the art, and, up to the fourteenth century, was famous for its wood carving. During the seventeenth and eighteenth centuries this art fell somewhat into decline, but of late years has been revived by many distinguished artists. Amongst the wood carvers whose rich and varied works are an honour to Italian industry, must be mentioned MM. Barbetti, of Sienna, whose vast establishment at Florence, opened about three years ago, employs upwards of 100 workmen, and produces furniture and articles of cabinet-making to the extent of 100,000 francs (£25,000) per annum. In Piedmont and the province of Genoa a good deal of turning is carried on, and for this purpose from 30,000 to 40,000 kils. of box-wood are imported yearly. Another important branch of industry is that of chair-making, at Chiavari. These chairs are extremely light and elegant, and were formerly imported from France, under the name of Paris chairs; at the present time they are exported to France instead. The stalls of choirs, confessionals, baptisteries, lecterns, organ cases, book cases, wainscoting, &c., executed at Genoa and Turin will rival anything of their kind that has been produced in other countries. The manufacture of common and cheap furniture is likewise carried on to a great extent, and the trade in furniture made of native wood, without veneering or gilding, has of late made great progress. At Milan, and throughout the whole of Lombardy, the manufacture of furniture has made considerable progress. At Milan alone there are thirty manufactories, in which 250 men are employed, whose earnings range from 1·76 francs to 3·52 francs per day, and more than 100 children. While conforming to the requirements of luxury and of fashion, the Milanese manufacturers make furniture of excellent design in fine woods, such as the mahogany and walnut, which are often richly carved; also in marquetrie work, inlaid with metal in rich and varied design, and others in fine woods, such as rosewood, Hungarian ash, enriched with bold ormolu ornaments, with incrustations of differently-coloured stones, or with miniatures

in majolica. The articles manufactured at Milan are in no way inferior to those made in the fourteenth century, and are remarkable for the elegance of their form, beauty, and good taste of design, and solidity and good workmanship. In various parts of the province of Milan, and especially in the neighbourhood of Monza, Como, Lissone, Cesano, Boisio, Barlassina, Lazzate, Seveso, Mede, this industry gives employment to upwards of 350 families, and the number of workmen is never less than 600 in the summer, and exceeds 1,000 in the winter, with average wages of 1·76 francs. The furniture made in this country is chiefly of walnut, and, so far as their price is concerned, they are within reach of all classes; that of Mede is distinguished for its cheapness. In the province of Brescia there are seven manufactories of furniture, producing annually about 400,000 francs (£16,000). In the principal towns in the Venetian provinces the manufacture of furniture is carried on to meet the demand. There are many excellent manufacturers at Venice and Vicenza. In the provinces of Emilia, Umbra, and the Marches, a good deal of furniture of gilt wood and ordinary work is made. The manufacturers of Naples execute work of every kind suitable to the requirements of all classes. The raw materials employed in this manufacture are as follows:—Indigenous woods, such as walnut, maple, oak, cherry, jujuh tree, lime tree, elm, alder, &c.; of foreign woods—the Indian walnut, ebony, rosewood, black oak, mahogany, and sandal wood; silk and woollen stuffs, cotton cloths, leather, and oil-cloths, from England, France, and America, as well as from national manufactories; trimmings, principally from the manufactories of Milan and other towns in Italy, and some from England, France, and Belgium; varnishes, from France, England, and Switzerland, as well as from national manufactories. The foreign woods used in this manufacture are estimated at 11,019 quintals, of the value of 400,000 francs (£16,000) annually. At the principal manufactories at Florence, Milan, Turin, and Naples, wood-working machines, driven by steam power, are used. The wood carving is executed by hand. The designs are principally original, in the style of the best periods of the art. The progress made in the manufacture of furniture in Italy since 1862 consists in a greater elegance in the form, and in better modes of mounting; a lower price, resulting from the introduction of machinery into the manufacture. The trade in articles of furniture and cabinet-making during the last few years is as follows:—

	Imports.		Exports.
1861	119,000	..	474,000
1862	302,000	..	897,000
1863	451,000	..	2,781,000
1864	536,000	..	882,000
1865	893,000	..	1,156,000
Average	478,000	..	1,238,000
	£19,120	..	£49,520

In 1865 these figures were compared in the following manner:—

	Imports.		Exports.
Furniture in wood (common) ..	344,000	..	694,000
„ carved, incrusted, or veneered ..	108,000	..	288,000
„ cabinet-making ..	341,000	..	174,000
Total francs	793,000		1,156,000

This shows that the export trade is chiefly supplied from the common furniture, and from carved and incrusted work.

RAMIE A SUBSTITUTE FOR COTTON.—The *New York Shipping List* says:—"We have received a pamphlet on the origin, propagation, culture, and cleaning of ramie, from a Mr. Lefranc, of New Orleans. This plant, it appears, was originally found in the Island of Java, where its fibre, which is said to closely resemble Sea Island cotton, has long been used by the natives in the manufacture of cloth in a primitive way. About ten years ago the plant was introduced into Mexico by a distinguished botanist, and thrived so well that its cultivation was last year attempted in Louisiana, and, it would seem, with entire success. The principal conclusions established by the Louisiana experiments are:—That the plant can be very easily cultivated in both the alluvial and upland soil of the South-western States; that its fibre is as strong and as fine as that of flax or cotton, and that it is worth in Europe double the best Sea Island cotton, and four times the best Upland; that it may be made, in the climate of Louisiana, to yield four crops a year, each crop of more pounds to the acre than in any ordinary yield of cotton; that it is not liable to be destroyed by the caterpillar or other agencies so commonly destructive to cotton; and that it requires but little labour after the ground is prepared, and will extend its roots and propagate itself almost indefinitely in any direction that may be marked out for its growth. It is said that a few mills in France and England have secretly introduced the fibre by mixing it with cotton for superior tissues, such as lace fabrics. But the quantity thus used has been light because of small supplies, consequent upon the difficulty of extracting the fibre in India. It appears that a machine for extracting and clearing the fibre has been invented and patented, and that they are afforded at the moderate price of 225 dollars at New Orleans. The Commissioner of Agriculture at Washington has examined specimens of cloth made from the ramie fibre, and testifies that they 'fully indicate that superior goods can be manufactured from this valuable plant.' It is said that Manchester and New York houses are calling in advance for all that can be produced in the South, and it seems altogether probable that a sufficient supply will be afforded this year to enable manufacturers to test it on a large scale. The present price of the fibre in Louisiana is said to be about 60 cents., but it is thought that it can ultimately be afforded at 25 cents., and perhaps less, in which event it will assuredly be cheaper than cotton."

Commerce.

BEET-ROOT SUGAR.—In his Circular, dated April 28th, Herr Robert Burger, of Magdebourg, states that the cultivation of beet-root for sugar-making in Europe is everywhere on the increase, the reports from Poland and some parts of Germany being particularly favourable. The attempts made to introduce the cultivation of the beet-root into Spain have also been very successful, so far as the culture and manufacture of sugar are concerned; but the real obstacle to its further progress in that kingdom is owing to the entire absence of a spirit of association amongst the commercial classes, and this, coupled with the state of Spanish trade, which is still in its infancy, will effectually prevent the further extension of the beet-root industry in that kingdom.

SUGAR IN TAHITI.—The *Trinidad Chronicle* says:—"Letters from Tahiti have been received, giving some interesting details of the cultivation there of the sugar cane having been greatly extended, and the produce, which is of excellent quality, being in much demand in the markets of the American coast, as also in those of Australia and New Zealand. Europeans now possess upwards of 15,000 acres in the island, and are continually making additions. The colonisation has extended to the Marquesas, in which some 10,000 acres have been placed under cultivation, and the beneficial progress is extending."

THE RAILWAYS AND SMALL PARCELS.—*The Produce Markets Review* says:—"It is satisfactory to find that the agitation on the question of the conveyance of small parcels has been successful, and that the monopoly aimed at by the railway companies has been defeated. From

the reply given by the Duke of Richmond to the influential deputation which waited upon him at the latter end of April, and from that given in the House of Commons by the Vice-President of the Board of Trade to Mr. Foster, we now learn that no attempt will be made to interfere with the carrying trade, which has been so enormously developed of late years by individuals (as distinguished from railway companies), and which has been so useful an adjunct in extending and enlarging the commerce of the country. It is only natural that the railway companies, with their increasing expenditure, moderate traffic, and diminishing dividends, should be anxious to grasp so valuable a prize as the carrying-trade of small parcels has proved to be; but the railway companies have yet to prove their capacity for managing their present traffic in such a way as will be to the advantage both of the public and the shareholders, before they can be believed capable of enlarging their sphere of action. The actual state of things was concisely described by the chief speaker in the deputation, when he spoke of the railway companies as being 'good carriers but bad deliverers.' Another speaker gave an example in point, showing what would be the respective cost of a certain number of parcels, when conveyed by private carriers, and by the railway companies; the cost of an average number of thirty-five parcels a day, conveyed from London to Liverpool, according to present arrangements, is £145 per annum; according to the railway scale of prices it would be £1,000 per annum."

THE MOVEMENT OF SHIPPING AT ANTWERP.—Antwerp is not only the principal port of Belgium, but also the emporium for the greater part of Germany. Since the peace of 1815 the trade of Antwerp has continually increased. In 1824, the number of ships that arrived at this port was 681; in 1825 the arrivals amount to 800; in 1836 to 1,426; in 1861 to 2,786; and in 1866 the number of arrivals amounted to not less than 3,085 ships, of the aggregate tonnage of 885,052, and the departures to 3,031 ships, of 885,052 tons.

SALE OF FUNGI AS FOOD IN MILAN.—The sale of fungi in Milan is under great restriction, and is only allowed in the public markets, so as to be under the immediate eye of the market inspectors. The sale of all fungi prejudicial to health, as also of those but little known, even if not poisonous, is strictly prohibited. The following are the only varieties of fungi which are permitted to be sold in the Milanese markets:—

Name in Milanese dialect.	Italian names.	Botanical names.
Funsg ferrée	Fungo porcino	Boletus edulis.
Funsg cocch	Uovolo	Agaricus cæsareus.
Spongignœura	Spugnuola	Phallus esculentus.
Trifola	Tartufo	Lycoperdon tuber.

Any infringement of these regulations is punished by fines and imprisonment.

Colonies.

GOLD AND SILVER IN VICTORIA AND CALIFORNIA.—Subjoined is a statement of the amount of gold and silver produced in Victoria and California since the discovery of these metals in these countries. In the past seventeen years 33,910,952 ounces of gold were raised in Victoria, representing a money value of £135,643,808; and the yield of California for the eighteen years ending in December, 1866, was 696,658,331 dollars' worth of gold, or 36,944,890 ounces, or, at £4 per ounce, £147,779,650. In Victoria the maximum yield was attained in 1856, and there has been a gradual decline since. The gold yield of California reached its culminating point in 1853, and the exportation of treasure gradually fell until 1861, when the silver of Nevada and the gold of Idaho began to come in, and the amount of the shipments rapidly rose again. The last estimate of the annual yield of gold of California was 27,000,000 dollars, or 1,421,050 oz., which is less than the lowest yield of Victoria since 1851. The falling off in the gold yield, however, was amply compensated for by the discovery of the silver mines of Nevada, in 1859. There is of course no comparison between the silver yield of the two countries, there being no silver returns for Victoria but those from the mine at St. Arnaud, at which work cannot fairly be said to have commenced as yet. The silver mines of Nevada prove more productive every year, and in 1866 they produced silver to the value of 16,500,000 dollars. Up to the end of that year the total yield, from the first discovery in 1859, was 70,725,000 dollars. In California the falling off in the gold returns has been more than balanced by the later discoveries of silver. The following are the gold and silver returns of California and Victoria, but as to the former country so little care seems to have been taken to preserve reliable statistics that the figures can only be said to be approximately correct:—

Annual Gold Return of Victoria.

Year.		Oz.
1851	(for three months)	145,146
1852		2,218,782
1853		2,676,345
1854		2,150,730
1855		2,751,535
1856		2,985,991
1857		2,762,460
1858		2,528,478
1859		2,280,950
1860		2,156,660
1861		1,967,420
1862		1,658,207
1863		1,626,872
1864		1,544,694
1865		1,543,801
1866		1,479,194
1867		1,433,687
	Total	33,910,952

Silver Return of Victoria.

The following quantities of silver have been raised and smelted in the colony:—

	Silver Ore. Tons.	Silver. Oz.	dwt.
Previously up to Dec. 31, 1864	4,480	6,786	4
From Jan. 1 to Dec. 31, 1865	1,400	3,379	0
From Jan. 1 to Dec. 31, 1866	2,139	2,348	2
From Jan. 1 to Dec. 31, 1867	665	—	
Total	8,684		

Annual Gold Return of California.

Year.		Dols.
1849		4,921,250
1850		27,676,346
1851		42,582,695
1852		46,588,434
1853		57,330,034
1854		51,328,653
1855		45,182,631
1856		48,880,543
1857		48,976,097
1858		47,548,025
1859		47,649,462
1860		42,203,345
1861		40,639,080
1862		34,704,866
1863		29,824,245
1864		26,653,099
1865		28,553,525
1866	(probable production)	25,415,401
	Total	696,658,331

Annual Yield of Nevada Silver Mines.

1859	50,000
1860	100,000
1861	2,275,000
1862	6,500,000
1863	12,500,000
1864	16,000,000
1865	16,800,000
1866	16,500,000
Total	70,725,000

WHEAT IN VICTORIA.—The total number of acres under wheat last year was 556,818, against 457,628 the year before, an increase of 99,190 acres. Had it not been for this great increase, the year's produce would only have been just sufficient for the wants of the colony. Breadstuffs are higher, both at Sydney and Adelaide, than at Melbourne, but it seems a mistake to have forced prices so high in South Australia, as there is a moderate if not so large a quantity as usual for exportation, and the colonial markets for wheat and flour are limited. Prices are so high that it will not pay to export to England. The cry of a failure in the grass crops, raised just before harvest in this colony, coupled with the knowledge that wheat was so high and scarce in Europe, caused many to think that extreme rates must be reached, and the Adelaide holders think that by holding they can raise the price to whatever they like, but this is a mistake, as New South Wales alone wants to import any quantity; and if prices rise materially at Adelaide, the Sydney merchants will, of course, order cargoes from Valparaiso. From the statistical returns it would appear that only 20,000 tons will be available for export from South Australia this year; allowing six bushels for the consumption of each of 175,000 people, 1,050,000 bushels, and 687,500 bushels as seed for 550,000 acres of land, there would remain only a surplus of 868,427 bushels at 45 bushels of wheat to the ton of flour, equal to 20,000 tons. The quantity allowed for consumption is always too much, and it is not likely that so many acres will be sown with wheat this year; besides, there must have been a considerable quantity of old wheat and flour on hand at the commencement of harvest, so that we may expect more than 20,000 tons to be sent away from Adelaide, notwithstanding the failure.

Notes.

POST OFFICE STATISTICS.—From an official return recently published of the gross revenue, cost of management, and net revenue of the Post Office for each year from 1838 to 1867, it appears that since 1841 there has been a gradual increase in the gross revenue until last year, when the sum realized was £4,548,129; but there has also been a corresponding increase in the cost of management, which last year amounted to £2,421,004; so that the net revenue during the last two years has shown a decline, being £2,127,125 in 1867, against £2,134,867 in 1866, and £2,194,854 in 1865.

GERMAN EXPEDITION TO THE NORTH POLE.—The German expedition to the North Pole, the cost of which is estimated at 15,000 thalers, will definitely leave Bergen (Norway) on the 15th May. The greater part of the crew have already quitted Hamburg for that port. The vessel which M. Coveldog, the leader, has purchased there is one of the new Danish yachts specially constructed for Polar voyages. It is furnished with beams and iron plates in such a way as to augment its power of resistance. The name is the *Germania*, and it sails under the flag of the Northern Confederation. Its burden is 80 tons, and it will be manned by a crew of 12 to 14 men.

IMPROVEMENT OF THE PATENT OFFICE.—A very influential deputation, introduced by Mr. Dillwyn, M.P., consisting of many M.P.'s, civil and mechanical engineers, and other men of science, waited upon Mr. Disraeli a short time since, to bring under his notice the great inconvenience and expense, both in time and money, incurred by those who wish to take out patents, and by the public in general, who wish to ascertain what is new and what is old in the history of invention. Mr. Dillwyn stated that the difficulty and expense arose in the main degree from the want of proper "subject matter indices." He mentioned that the matter had been brought before Lords Romilly and Cairns, who had promptly signified their willingness to recommend the appointment of three additional commissioners of patents. The main object of the deputation was to secure from the Government the means for the expenses involved by such appointments, and the preparation of the indices. Mr. Dillwyn, supported by Mr. Gregory and Mr. Horsfall, strongly urged that the Government should give the requisite assistance, if only on the ground that the annual surplus arising from the patent fees was £54,000. Mr. Disraeli expressed himself duly sensible of the importance of the subject, and intimated that the representations of a deputation consisting of men of such eminence and distinction as those he saw before him would receive the utmost consideration from the Government.

Correspondence.

FUNGI AS FOOD.—SIR,—A mistake was inadvertently made by me in the remarks on fungi, published in the *Journal* for May 15. Mr. G. W. Smith's "Charts of Edible and Poisonous Fungi" are published by Mr. Hardwicke, not by "Groombridge." My observations as to their hardly doing justice to the drawings applied to the colouring only, for the drawings were made on stone by Mr. Smith himself. I beg to add that fungi have been much more used in London during the last fourteen years than formerly. Amongst other uses they enter sometimes into the composition of bread, as appears from a communication from Professor Friès.—I am, &c., M. J. BERKELEY.

MEETINGS FOR THE ENSUING WEEK.

MON.....Social Science Assoc., 8. Mr. Chisholm Anstey, "On the Inequality of the Administration of Criminal Law in cases of Fraud."
Geographical, 8½. 1. Mr. C. R. Markham, "Last Memoir on Abyssinia: Antalo to Bashilo, and Topography of Magdala." 2. Mr. D. G. Neumeyer, "Scientific Exploration of Central Australia."
British Architects, 8.

TUES ...R. Medical and Chirurgical, 8½.
Photographic, 8.
Ethnological, 8. 1. Mr. C. B. Wade, "On the Chinese Notation of Time." 2. "On the Migration and History of Coffee, Tea, Cocoa, &c." (By the late Mr. J. Crawfurd.)
Royal Inst., 3. Dr. M. Foster, "On the Development of Animals."

WED ...Microscopical, 8. Dr. Thudichum, "The Relation of Microscopic Fungi to great Pathological Processes."
R. Literary Fund, 3.
R. Society of Literature, 4½.
Archæological Assoc., 8½.

THUR ...Royal, 8½.
Antiquaries, 8½.
Zoological, 8½.
R. Society Club, 6.
Royal Inst., 3. Sir J. Lubbock, "On Savages."
Society of Fine Arts, 8. Adjourned Annual General Meeting.

FRI.....Astronomical, 8.
Royal Inst., 8. Prof. Frankland, "On the Source of Light in Luminous Flames."

SAT .....R. Botanic, 3¾.
Royal Inst., 3. Sir J. Lubbock, "On Savages."

PARLIAMENTARY REPORTS.

SESSIONAL PRINTED PAPERS.

Delivered on 19th May, 1868.

Par. Numb.
111. Bill—Land Writs Registration (Scotland) (amended).
Colonial Bishops—Returns.
New Zealand—Papers.
Public Petitions—Twenty-first Report.

Delivered on 20th May, 1868.

267. Australian Mails—Memorials.
268. Volunteers (Devon Association)—Letter.
Trades Unions and other Associations—Seventh Report of Commissioners.

SESSION 1867.

582. Parliamentary Papers—List and Index.

Delivered on 21st May, 1868.

118. Bill—Pier and Harbour Orders Confirmation, &c.
119. ,, Divorce and Matrimonial Causes Court (amended in Committee).
120. ,, Local Government Supplemental (No. 2).
121. ,, Local Government Supplemental (No. 3).
122. ,, Unclaimed Prize Money (India).
124. ,, West Indies.
125. ,, Medical Practitioners (Colonies).
228. Roman Catholic University (Ireland)—Correspondence.

Delivered on 23rd May, 1868.

130. Bill—Vagrant Act Amendment (amended).
132. ,, Metropolitan Police Funds.
257. Customs (Landing Department)—Minutes.
262. Reformatory and Industrial Schools—Return.
Crete—Correspondence.
Public Petitions—Twenty-second Report.

Delivered on 25th May, 1868.

136. Bill—Duchy of Cornwall Amendment.
269. Telegraphic Communications (East India)—Memorials.
295. Merchant Service—Return.
296. Police (Scotland)—Tenth Report.

Patents.

From Commissioners of Patents' Journal, May 29.

GRANTS OF PROVISIONAL PROTECTION.

Albums—1576—O. König.
Axles and axle boxes—1568—W. E. Newton.
Bale ties—1542—T. Briggs.
Bellows—1613—W. Allday.
Bevel gearing—1594—F. Hyde.
Blow-pipe apparatus—1546—S. P. Armstead.
Boilers—1554—H. B. Barlow.
Boilers, &c., preventing the radiation of heat from—1596—S. Chambers and C. Broadhead.
Bottles, &c., cleansing—1558—C. Farrow.
Boxes for holding bottles—1567—F. Dixon.
Braces—1566—W. E. Newton.
Bricks—1590—H. C. Crofts.
Bricks—1591—J. H. Johnson.
Brushes and pencils, protecting the points of—1510—G. Bowden and J. R. Dickinson.
Brushes, scrubbing, device for holding—1537—W. R. Lake.
Buildings, heating and ventilating—1527—G. T. Seydel.
Capsules, &c., colouring—1574—G. S. Marie.
Carding engines—1575—T. B. Kay.
Casks, &c., supplying finings, &c., to—1535—A. M. Dix.
Combs, curry—1545—T. Pope.
Cooking apparatus—1523—R. Waygood.
Cooking apparatus, &c.—1609—R. Rayner.
Cooking ranges—1611—J. A. Adams.
Dead bodies, enbalming—1602—W. R. Lake
Door knobs, &c., moulding—1533—A. D. E. Boucher.
Dress ornaments—1573—J. Ashford and W. H. Collins.
Engines, steam—1569—W. Tasker, jun.
Engines, steam—1581—W. E. Newton.
Engines, &c., locomotive—1582—V. G. Bell.
Envelopes—1543—G. A. H. Dean.
Fabrics, &c., machines for drying and tentering—1585—E. Ashworth.
Fans—1544—W. R. Lake.
Fibrous materials, treating—832—R. Cocker.
Fire-arms, breech-loading—1526—J. H. Crane.
Flax, &c., breaking the refuse portion of—1553—F. W. and W. J. Crossley.
Fuel, artificial—1528—S. Hall.
Furnaces—1536—C. E. Brooman.
Furnaces—1540—R. Leake and J. Beevers.
Furnaces—1577—J. Driver.
Furnaces—1599—J. Robey.
Gas meters—1600—W. and G. B. Smith.
Gauges—1606—H. J. H. King, J. Auchinvole, and A. Patrick.
Guns, breech-loading—1612—C. Golden.
Harrows—1565—R. M. Clunes and F. W. Davis.
Hats—1547—C. Vero.
Hats, felt—1580—W. E. Newton.
Hides, &c., removing hair from—1617—W. E. Gedge.
Hydrotherapic apparatus, portable—1597—A. Pelard.
Letter-boxes—870—N. Jacobsohn.
Liquid meters—1598—A. V. Newton.
Looms—1531—J. Crossley.
Looms—1562—W. Baldwin.
Looms—1572—W. Gadd and J. Moore.
Looms—1595—T. Singleton.
Millstones, dressing—1507—R. Evans and J. Bruce.
Musical instruments—1593—J. Hicks.
Oil presses, &c.—1550—J. H. Nutt.
Ores, &c., calcining, &c.—1519—J. Norman.
Paper pulp, knotters for straining—1509—R. K. Miller, A. B. Herbert, and H. Watson.
Parkesine—1614—A. Parkes.
Pens—1541—S. Buxton.
Photographers' head and waist rests—1532—W. Webster and R. W. Barnes.
Photographs, &c., frames for—1592—J. H. Johnson.
Pianos, &c.—1615—G. Price.
Pipe joints and ends—1548—T. Shinton.
Pipes for smoking—1503—A. Strauss.
Projectiles—1584—N. Basevi.
Railway signals—1607—T. Briggs.
Railways—1601—A. M. Clark.
Railways—1603—J. Price.
Rasps—1557—S. B. Allen.
Reaping and mowing machines—1549—W. D. Brown.
Reaping machines—1608—A. J. Murray.
Rocks, forming tunnels and galleries in—1511—H. N. Penrice.
Ships, iron and steel—1561—W. Taylor.
Ships, &c., signalling or giving orders on board—1280—L. M. Ruiz.
Shutters—1521—H. H. Hazard and W. Grimwood.
Steam, &c., regulating pressure of—1621—E. Billington & W. Jolley.
Stone, dressing—1587—J. G. Walker.
Sugar, crushed, treatment of—1530—R. Moore.
Thimbles—1564—C. Iles.
Timber, loading, &c.—1552—S. B. Boulton.
Tobacco, moulding, &c.—1396—T. and G. Cope.
Tools, entrenching—1501—K. H. Cornish.
Types, cases, &c.—1525—W. H. Wilkinson.
Upholsterers' trimmings—1555—G. Dixon.
Wadding, &c., apparatus for manufacturing—1571—H. Marsden and T. H. Blamires.
Weights, raising and lowering—1623—G. Watson.
Wool, dyeing—1446—J. Maistre.

INVENTIONS WITH COMPLETE SPECIFICATIONS FILED.

Furnaces—1693—C. Delafield.
Harness—1721—W. R. Lake.
Nautical instruments—1665—C. Chapman and J. Lilley.

PATENTS SEALED.

3310. T. G. F. Dolby.	3432. J. Collingham and T. E. Smith.
3413. J. C. Woolfield.	
3414. G. Heiron.	3464. J. G. Scott.
3420. D. Barker.	3512. G. Holcroft & W. N. Dack.
3421. W. Black & T. Hawthorn.	3515. A. Camme and F. Delpech.
3429. W. B. Leachman and J. Holroyd.	3628. E. Lord.
	1078. J. H. Johnson.
3431. S. Vaile.	1083. C. S. Tyson.
3437. J. Thorpe.	1130. J. H. Johnson.

From Commissioners of Patents' Journal, June 2.

PATENTS SEALED.

3430. J. H. Wilson.	3517. A. M. Clark.
3447. T., G. B., & B. Stephenson.	3529. R. W. Brownhill.
3450. R. R. Gray.	3530. N. Paxman, jun.
3451. E. T. Hughes.	3621. H. A. Bonneville.
3453. E. Walker.	200. J. H. Johnson.
3456. J. F. Clarke.	215. J. H. Johnson.
3462. J. Mabson.	405. W. E. Newton.
3463. S. Perkins and W. Smellie.	493. W. R. Lake.
3468. T. J. Leigh.	1085. J. Jordan.
3470. E. A. Pontifex.	

PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

1407. J. M. Clements.	1602. T. Routledge and W. H. Richardson.
1445. W. Clark.	
1498. T. Summerson.	1714. J. H. Johnson.
1503. W. J. Burgess.	1494. H. Monier.
1508. T. Brinsmead.	1497. F. N. Gisborne.
1245. G. Davies.	1512. H. Mallet.
1466. W. Settle.	

PATENTS ON WHICH THE STAMP DUTY OF £100 HAS BEEN PAID.

1245. G. Davies.	1499. W. H. Walker.
1461. J. Howard & E. T. Bousfield.	1352. J. Ronald.
1358. W. Hunter.	1386. H. N. Penrice.
1430. S. Hawkins.	1411. E. C. Stanford.

Registered Designs.

4945—April 24—A detachable shirt frill—H. J. Smith and R. Davidson, Bromley-street East, Commercial-road, E.
4946—April 30—Combined open fire range and self-heating oven—Kennard and Ferguson, Glasgow.
4947—May 15—An improved apparatus for turning over or closing cartridges for breech-loading fire-arms—J. Johnson, 30, Bath-street, Birmingham.
4948—May 15—Basket or support for flower and other pots—W. J. Tait, Rugby.
4949—May 20—Scent bottle—A. Brownett, 1, Richmond-buildings, Soho, W.
4950—May 26—The paragon archery tip—Thos. Oldred, 126, Oxford-street, W.
4951—May 27—Gas oven—G. Shrewsbury, Lower Norwood, Surrey.